



- 1 -



SEQUENCE LISTING

<110> Fletcher, Jonathan A.
Kroll, Todd G.

<120> PAX8-PPARgamma NUCLEIC ACID MOLECULES
AND POLYPEPTIDES AND USES THEREOF

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<141> 2001-01-18

<150> US 60/177,109

<151> 2000-01-20

<150> US 60/225,079

<151> 2000-08-14

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Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser	
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Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys	
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cag gag atc aca gag tat gcc aaa agc att cct ggt ttt gta aat ctt Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu 660 665 670	2016
gac ttg aac gac caa gta act ctc ctc aaa tat gga gtc cac gag atc Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu Ile 675 680 685	2064
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cag gtg atc aag aag acg gag aca gac atg agt ctt cac ccg ctc ctg Gln Val Ile Lys Lys Thr Glu Thr Asp Met Ser Leu His Pro Leu Leu 820 825 830	2496
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Arg	Ile	Val	Asp	Leu	Ala	His	Gln	Gly	Val	Arg	Pro	Cys	Asp	Ile	Ser
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Tyr 65	Tyr	Glu	Thr	Gly	Ser	Ile	Arg	Pro	Gly	Val	Ile	Gly	Gly	Ser	Lys
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Pro	Lys	Val	Ala	Thr	Pro	Lys	Val	Val	Glu	Lys	Ile	Gly	Asp	Tyr	Lys
				85					90					95	
Arg	Gln	Asn	Pro	Thr	Met	Phe	Ala	Trp	Glu	Ile	Arg	Asp	Arg	Leu	Leu
			100					105					110		
Ala	Glu	Gly	Val	Cys	Asp	Asn	Asp	Thr	Val	Pro	Ser	Val	Ser	Ser	Ile
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Asn	Arg	Ile	Ile	Arg	Thr	Lys	Val	Gln	Gln	Pro	Phe	Asn	Leu	Pro	Met
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Pro	Ser	Ser	Ala	Val	Thr	Pro	Pro	Glu	Ser	Pro	Gln	Ser	Asp	Ser	Leu
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Gly	Ser	Thr	Tyr	Ser	Ile	Asn	Gly	Leu	Leu	Gly	Ile	Ala	Gln	Pro	Gly
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Ser	Asp	Lys	Arg	Lys	Met	Asp	Asp	Ser	Asp	Gln	Asp	Ser	Cys	Arg	Leu
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Ser	Ile	Asp	Ser	Gln	Ser	Ser	Ser	Ser	Gly	Pro	Arg	Lys	His	Leu	Arg
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Thr 225	Asp	Ala	Phe	Ser	Gln	His	His	Leu	Glu	Pro	Leu	Glu	Cys	Pro	Phe
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Glu	Arg	Gln	His	Tyr	Pro	Glu	Ala	Tyr	Ala	Ser	Pro	Ser	His	Thr	Lys
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Gly	Glu	Gln	Gly	Leu	Tyr	Pro	Leu	Pro	Leu	Leu	Asn	Ser	Thr	Leu	Asp
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Leu	Ala	Ile	Lys	Gln	Glu	Thr	Pro	Glu	Val	Ser	Ser	Ser	Ser	Ser	Thr
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Pro	Cys	Ser	Leu	Ser	Ser	Ser	Ala	Leu	Leu	Asp	Leu	Gln	Gln	Val	Gly
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Ser	Gly	Val	Pro	Phe	Asn	Ala	Phe	Pro	His	Ala	Ala	Ser	Val	Tyr	
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Gly	Gln	Phe	Thr	Gly	Gln	Ala	Leu	Leu	Ser	Glu	Met	Thr	Met	Val	Asp

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Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr Asp Leu						
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Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser Pro						
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Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu Glu						
	450		455		460	
Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp Lys						
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Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly						
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Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys Asp						
	500		505		510	
Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr Cys						
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Arg Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile Arg						
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Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu Ile						
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Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg Ala						
	565		570		575	
Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu Thr						
	580		585		590	
Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser						
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Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys						
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Ile Lys Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys Glu Val						
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Ala Ile Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu Ala Val						
	645		650		655	
Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu						
	660		665		670	
Asp Leu Asn Asp Gln Val Thr Leu Lys Tyr Gly Val His Glu Ile						
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Ile Tyr Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly Val Leu Ile						
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Ser Glu Gly Gln Gly Phe Met Thr Arg Glu Phe Leu Lys Ser Leu Arg						
705		710		715		720
Lys Pro Phe Gly Asp Phe Met Glu Pro Lys Phe Glu Phe Ala Val Lys						
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Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Ile Phe Ile Ala						
	740		745		750	
Val Ile Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu Asn Val Lys Pro						
	755		760		765	
Ile Glu Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu Glu Leu Gln Leu						
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Lys Met Thr Asp Leu Arg Gln Ile Val Thr Glu His Val Gln Leu Leu						
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835

840

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Gly Gly Ala Phe Val Asn Gly Arg Pro Leu Pro Glu Val Val Arg Gln	
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Arg Ile Val Asp Leu Ala His Gln Gly Val Arg Pro Cys Asp Ile Ser	
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cgc cag ctg cgc gtc agc cat ggc tgc gtc agc aag atc ctt ggc agg	192
Arg Gln Leu Arg Val Ser His Gly Cys Val Ser Lys Ile Leu Gly Arg	
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Tyr Tyr Glu Thr Gly Ser Ile Arg Pro Gly Val Ile Gly Gly Ser Lys	
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Pro Lys Val Ala Thr Pro Lys Val Val Glu Lys Ile Gly Asp Tyr Lys	
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cgc cag aac cct acc atg ttt gcc tgg gag atc cga gac cgg ctg ctg	336
Arg Gln Asn Pro Thr Met Phe Ala Trp Glu Ile Arg Asp Arg Leu Leu	
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gct gag ggc gtc tgt gac aat gac act gtg ccc agt gtc agc tcc att	384
Ala Glu Gly Val Cys Asp Asn Asp Thr Val Pro Ser Val Ser Ser Ile	
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Asn Arg Ile Ile Arg Thr Lys Val Gln Gln Pro Phe Asn Leu Pro Met	
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gac agc tgc gtg gcc acc aag tcc ctg agt ccc gga cac acg ctg atc	480
Asp Ser Cys Val Ala Thr Lys Ser Leu Ser Pro Gly His Thr Leu Ile	
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Ser Ile Asp Ser Gln Ser Ser Ser Ser Gly Pro Arg Lys His Leu Arg	
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Thr Asp Ala Phe Ser Gln His His Leu Glu Pro Leu Glu Cys Pro Phe	
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Glu Arg Gln His Tyr Pro Glu Ala Tyr Ala Ser Pro Ser His Thr Lys	
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Gly Glu Gln Gly Leu Tyr Pro Leu Pro Leu Leu Asn Ser Thr Leu Asp	
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Asp Gly Lys Ala Thr Leu Thr Pro Ser Asn Thr Pro Leu Gly Arg Asn	
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Leu Ser Thr His Gln Thr Tyr Pro Val Val Ala Asp Pro His Ser Pro	
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Ser Gly Val Pro Pro Phe Asn Ala Phe Pro His Ala Ala Ser Val Tyr	
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Asp Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala	
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 65 70 75 80
 Pro Lys Val Ala Thr Pro Lys Val Val Glu Lys Ile Gly Asp Tyr Lys
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 Arg Gln Asn Pro Thr Met Phe Ala Trp Glu Ile Arg Asp Arg Leu Leu
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 Ala Glu Gly Val Cys Asp Asn Asp Thr Val Pro Ser Val Ser Ser Ile
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 Asn Arg Ile Ile Arg Thr Lys Val Gln Gln Pro Phe Asn Leu Pro Met
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 Asp Ser Cys Val Ala Thr Lys Ser Leu Ser Pro Gly His Thr Leu Ile
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 Pro Ser Ser Ala Val Thr Pro Pro Glu Ser Pro Gln Ser Asp Ser Leu
 165 170 175
 Gly Ser Thr Tyr Ser Ile Asn Gly Leu Leu Gly Ile Ala Gln Pro Gly
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 Ser Ile Asp Ser Gln Ser Ser Ser Ser Gly Pro Arg Lys His Leu Arg
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 Thr Asp Ala Phe Ser Gln His His Leu Glu Pro Leu Glu Cys Pro Phe
 225 230 235 240
 Glu Arg Gln His Tyr Pro Glu Ala Tyr Ala Ser Pro Ser His Thr Lys
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 Gly Glu Gln Gly Leu Tyr Pro Leu Pro Leu Leu Asn Ser Thr Leu Asp
 260 265 270
 Asp Gly Lys Ala Thr Leu Thr Pro Ser Asn Thr Pro Leu Gly Arg Asn
 275 280 285
 Leu Ser Thr His Gln Thr Tyr Pro Val Val Ala Asp Pro His Ser Pro
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 Leu Ala Ile Lys Gln Glu Thr Pro Glu Val Ser Ser Ser Ser Ser Thr
 305 310 315 320
 Pro Cys Ser Leu Ser Ser Ser Ala Leu Leu Asp Leu Gln Gln Val Gly

Ser Gly Val	325	330	335
Pro Phe Asn Ala	340	345	350
Gly Gln Phe Thr Gly Gln Ala Leu	355	360	365
Pro Thr Leu Pro Gly Tyr Pro Pro His Ile	370	375	380
Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Glu Met Thr Met	385	390	395
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Val Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile Lys	420	425	430
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Asp Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr	450	455	460
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Ser Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His	485	490	495
Glu Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly	500	505	510
Asp Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys	515	520	525
Lys Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg	530	535	540
Cys Asp Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln	545	550	555
Tyr Cys Arg Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala	565	570	575
Ile Arg Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala	580	585	590
Glu Ile Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu	595	600	605
Arg Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro	610	615	620
Leu Thr Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp	625	630	635
Lys Ser Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu	645	650	655
Asp Lys Ile Lys Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys	660	665	670
Glu Val Ala Ile Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu	675	680	685
Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val	690	695	700
Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His	705	710	715
Glu Ile Ile Tyr Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly Val	725	730	735
Leu Ile Ser Glu Gly Gln Gly Phe Met Thr Arg Glu Phe Leu Lys Ser	740	745	750
Leu Arg Lys Pro Phe Gly Asp Phe Met Glu Pro Lys Phe Glu Phe Ala	755	760	765
Val Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Ile Phe			

770		775		780
Ile Ala Val Ile Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu Asn Val				
785		790		800
Lys Pro Ile Glu Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu Glu Leu				
	805		810	815
Gln Leu Lys Leu Asn His Pro Glu Ser Ser Gln Leu Phe Ala Lys Leu				
	820		825	830
Leu Gln Lys Met Thr Asp Leu Arg Gln Ile Val Thr Glu His Val Gln				
	835		840	845
Leu Leu Gln Val Ile Lys Lys Thr Glu Thr Asp Met Ser Leu His Pro				
	850		855	860
Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr				
865		870		

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<220>
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 <222> (3)... (41)

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<400> 8	
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1 5 10	

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Gly Gln Ala Leu Leu Ser Glu Met Thr Met Val Asp Thr	
1 5 10	

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<400> 10

Gly Gln Ala Leu Leu Ser Glu Met Thr Met Val Asp Thr
1 5 10

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<212> DNA

<213> Homo Sapiens

<220>

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<222> (3)...(41)

<400> 11

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1 5 10

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<211> 13

<212> PRT

<213> Homo Sapiens

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Ile Ala Gly Met Val Ala Glu Met Thr Met Val Asp Thr
1 5 10

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<211> 1372

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Met Pro His Asn Ser Ile Arg Ser Gly His Gly Gly Leu
1 5 10

aac cag ctg gga ggg gcc ttt gtg aat ggc aga cct ctg ccg gaa gtg 97
Asn Gln Leu Gly Gly Ala Phe Val Asn Gly Arg Pro Leu Pro Glu Val
15 20 25

gtc cgc cag cgc atc gta gac ctg gcc cac cag ggt gta agg ccc tgc 145
Val Arg Gln Arg Ile Val Asp Leu Ala His Gln Gly Val Arg Pro Cys
30 35 40 45

gac atc tct cgc cag ctg cgc gtc agc cat ggt tgc gtc agc aag atc 193
Asp Ile Ser Arg Gln Leu Arg Val Ser His Gly Cys Val Ser Lys Ile
50 55 60

ctt ggc agg tac tac gag act ggc agc atc cgg cct gga gtg ata ggg	241
Leu Gly Arg Tyr Tyr Glu Thr Gly Ser Ile Arg Pro Gly Val Ile Gly	
65 70 75	
ggc tcc aag ccc aag gtg gcc acc ccc aag gtg gtg gag aag att ggg	289
Gly Ser Lys Pro Lys Val Ala Thr Pro Lys Val Val Glu Lys Ile Gly	
80 85 90	
gac tac aaa cgc cag aac cct acc atg ttt gcc tgg gag atc cga gac	337
Asp Tyr Lys Arg Gln Asn Pro Thr Met Phe Ala Trp Glu Ile Arg Asp	
95 100 105	
cgg ctc ctg gct gag ggc gtc tgt gac aat gac act gtg ccc agt gtc	385
Arg Leu Leu Ala Glu Gly Val Cys Asp Asn Asp Thr Val Pro Ser Val	
110 115 120 125	
agc tcc att aat aga atc atc cgg acc aaa gtg cag caa cca ttc aac	433
Ser Ser Ile Asn Arg Ile Ile Arg Thr Lys Val Gln Gln Pro Phe Asn	
130 135 140	
ctc cct atg gac agc tgc gtg gcc acc aag tcc ctg agt ccc gga cac	481
Leu Pro Met Asp Ser Cys Val Ala Thr Lys Ser Leu Ser Pro Gly His	
145 150 155	
acg ctg atc ccc agc tca gct gta act ccc ccg gag tca ccc cag tcg	529
Thr Leu Ile Pro Ser Ser Ala Val Thr Pro Pro Glu Ser Pro Gln Ser	
160 165 170	
gat tcc ctg ggc tcc acc tac tcc atc aat ggg ctc ctg ggc atc gct	577
Asp Ser Leu Gly Ser Thr Tyr Ser Ile Asn Gly Leu Leu Gly Ile Ala	
175 180 185	
cag cct ggc agc gac aag agg aaa atg gat gac agt gat cag gat agc	625
Gln Pro Gly Ser Asp Lys Arg Lys Met Asp Asp Ser Asp Gln Asp Ser	
190 195 200 205	
tgc cga cta agc att gac tca cag agc agc agc agc gga ccc cga aag	673
Cys Arg Leu Ser Ile Asp Ser Gln Ser Ser Ser Ser Gly Pro Arg Lys	
210 215 220	
cac ctt cgc acg gat gcc ttc agc cag cac cac ctc gag ccg ctc gag	721
His Leu Arg Thr Asp Ala Phe Ser Gln His His Leu Glu Pro Leu Glu	
225 230 235	
tgc cca ttt gag cgg cag cac tac cca gag gcc tat gcc tcc ccc agc	769
Cys Pro Phe Glu Arg Gln His Tyr Pro Glu Ala Tyr Ala Ser Pro Ser	
240 245 250	
cac acc aaa ggc gag cag ggc ctc tac ccg ctg ccc ttg ctc aac agc	817
His Thr Lys Gly Glu Gln Gly Leu Tyr Pro Leu Pro Leu Leu Asn Ser	
255 260 265	
acc ctg gac gac ggg aag gcc acc ctg acc cct tcc aac acg cca ctg	865
Thr Leu Asp Asp Gly Lys Ala Thr Leu Thr Pro Ser Asn Thr Pro Leu	
270 275 280 285	

ggg cgc aac ctc tcg act cac cag acc tac ccc gtg gtg gca gat cct	913
Gly Arg Asn Leu Ser Thr His Gln Thr Tyr Pro Val Val Ala Asp Pro	
290 295 300	
cac tca ccc ttc gcc ata aag cag gaa acc ccc gag gtg tcc agt tct	961
His Ser Pro Phe Ala Ile Lys Gln Glu Thr Pro Glu Val Ser Ser Ser	
305 310 315	
agc tcc acc cct tcc tct tta tct agc tcc gcc ttt ttg gat ctg cag	1009
Ser Ser Thr Pro Ser Ser Leu Ser Ser Ser Ala Phe Leu Asp Leu Gln	
320 325 330	
caa gtc gcc tcc ggg gtc ccg ccc ttc aat gcc ttt ccc cat gct gcc	1057
Gln Val Gly Ser Gly Val Pro Pro Phe Asn Ala Phe Pro His Ala Ala	
335 340 345	
tcc gtg tac ggg cag ttc acg ggc cag gcc ctc ctc tca ggg cga gag	1105
Ser Val Tyr Gly Gln Phe Thr Gly Gln Ala Leu Leu Ser Gly Arg Glu	
350 355 360 365	
atg gtg ggg ccc acg ctg ccc gga tac cca ccc cac atc ccc acc agc	1153
Met Val Gly Pro Thr Leu Pro Gly Tyr Pro Pro His Ile Pro Thr Ser	
370 375 380	
gga cag gcc agc tat gcc tcc tct gcc atc gca ggc atg gtg gca gga	1201
Gly Gln Gly Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Gly	
385 390 395	
agt gaa tac tct ggc aat gcc tat ggc cac acc ccc tac tcc tcc tac	1249
Ser Glu Tyr Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr	
400 405 410	
agc gag gcc tgg cgc ttc ccc aac tcc agc ttg ctg agt tcc cca tat	1297
Ser Glu Ala Trp Arg Phe Pro Asn Ser Ser Leu Ser Ser Pro Tyr	
415 420 425	
tat tac agt tcc aca tca agg ccg agt gca ccg ccc acc act gcc acg	1345
Tyr Tyr Ser Ser Thr Ser Arg Pro Ser Ala Pro Pro Thr Thr Ala Thr	
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Ala Phe Asp His Leu *	
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 <212> PRT
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 20 25 30
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Arg	Gln	Leu	Arg	Val	Ser	His	Gly	Cys	Val	Ser	Lys	Ile	Leu	Gly	Arg
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Tyr	Tyr	Glu	Thr	Gly	Ser	Ile	Arg	Pro	Gly	Val	Ile	Gly	Gly	Ser	Lys
65					70					75					80
Pro	Lys	Val	Ala	Thr	Pro	Lys	Val	Val	Glu	Lys	Ile	Gly	Asp	Tyr	Lys
				85					90					95	
Arg	Gln	Asn	Pro	Thr	Met	Phe	Ala	Trp	Glu	Ile	Arg	Asp	Arg	Leu	Leu
			100					105					110		
Ala	Glu	Gly	Val	Cys	Asp	Asn	Asp	Thr	Val	Pro	Ser	Val	Ser	Ser	Ile
		115					120						125		
Asn	Arg	Ile	Ile	Arg	Thr	Lys	Val	Gln	Gln	Pro	Phe	Asn	Leu	Pro	Met
		130				135					140				
Asp	Ser	Cys	Val	Ala	Thr	Lys	Ser	Leu	Ser	Pro	Gly	His	Thr	Leu	Ile
145					150					155					160
Pro	Ser	Ser	Ala	Val	Thr	Pro	Pro	Glu	Ser	Pro	Gln	Ser	Asp	Ser	Leu
				165					170					175	
Gly	Ser	Thr	Tyr	Ser	Ile	Asn	Gly	Leu	Leu	Gly	Ile	Ala	Gln	Pro	Gly
			180				185						190		
Ser	Asp	Lys	Arg	Lys	Met	Asp	Asp	Ser	Asp	Gln	Asp	Ser	Cys	Arg	Leu
		195				200					205				
Ser	Ile	Asp	Ser	Gln	Ser	Ser	Ser	Ser	Gly	Pro	Arg	Lys	His	Leu	Arg
		210				215					220				
Thr	Asp	Ala	Phe	Ser	Gln	His	His	Leu	Glu	Pro	Leu	Glu	Cys	Pro	Phe
225					230					235					240
Glu	Arg	Gln	His	Tyr	Pro	Glu	Ala	Tyr	Ala	Ser	Pro	Ser	His	Thr	Lys
				245				250						255	
Gly	Glu	Gln	Gly	Leu	Tyr	Pro	Leu	Pro	Leu	Leu	Asn	Ser	Thr	Leu	Asp
			260				265					270			
Asp	Gly	Lys	Ala	Thr	Leu	Thr	Pro	Ser	Asn	Thr	Pro	Leu	Gly	Arg	Asn
		275					280					285			
Leu	Ser	Thr	His	Gln	Thr	Tyr	Pro	Val	Val	Ala	Asp	Pro	His	Ser	Pro
		290				295					300				
Phe	Ala	Ile	Lys	Gln	Glu	Thr	Pro	Glu	Val	Ser	Ser	Ser	Ser	Ser	Thr
305					310					315					320
Pro	Ser	Ser	Leu	Ser	Ser	Ser	Ala	Phe	Leu	Asp	Leu	Gln	Gln	Val	Gly
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Ser	Gly	Val	Pro	Pro	Phe	Asn	Ala	Phe	Pro	His	Ala	Ala	Ser	Val	Tyr
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Gly	Gln	Phe	Thr	Gly	Gln	Ala	Leu	Leu	Ser	Gly	Arg	Glu	Met	Val	Gly
		355				360						365			
Pro	Thr	Leu	Pro	Gly	Tyr	Pro	Pro	His	Ile	Pro	Thr	Ser	Gly	Gln	Gly
		370				375					380				
Ser	Tyr	Ala	Ser	Ser	Ala	Ile	Ala	Gly	Met	Val	Ala	Gly	Ser	Glu	Tyr
385					390					395					400
Ser	Gly	Asn	Ala	Tyr	Gly	His	Thr	Pro	Tyr	Ser	Ser	Tyr	Ser	Glu	Ala
			405						410					415	
Trp	Arg	Phe	Pro	Asn	Ser	Ser	Leu	Leu	Ser	Ser	Pro	Tyr	Tyr	Tyr	Ser
			420					425					430		
Ser	Thr	Ser	Arg	Pro	Ser	Ala	Pro	Pro	Thr	Thr	Ala	Thr	Ala	Phe	Asp
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His	Leu														
		450													

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                               Met Gly Glu Thr Leu Gly Asp Ser
                               1                               5

cct att gac cca gaa agc gat tcc ttc act gat aca ctg tct gca aac      162
Pro Ile Asp Pro Glu Ser Asp Ser Phe Thr Asp Thr Leu Ser Ala Asn
    10                               15                               20

ata tca caa gaa atg acc atg gtt gac aca gag atg cca ttc tgg ccc      210
Ile Ser Gln Glu Met Thr Met Val Asp Thr Glu Met Pro Phe Trp Pro
    25                               30                               35                               40

acc aac ttt ggg atc agc tcc gtg gat ctc tcc gta atg gaa gac cac      258
Thr Asn Phe Gly Ile Ser Ser Val Asp Leu Ser Val Met Glu Asp His
                               45                               50                               55

tcc cac tcc ttt gat atc aag ccc ttc act act gtt gac ttc tcc agc      306
Ser His Ser Phe Asp Ile Lys Pro Phe Thr Thr Val Asp Phe Ser Ser
                               60                               65                               70

att tct act cca cat tac gaa gac att cca ttc aca aga aca gat cca      354
Ile Ser Thr Pro His Tyr Glu Asp Ile Pro Phe Thr Arg Thr Asp Pro
                               75                               80                               85

gtg gtt gca gat tac aag tat gac ctg aaa ctt caa gag tac caa agt      402
Val Val Ala Asp Tyr Lys Tyr Asp Leu Lys Leu Glu Glu Tyr Gln Ser
    90                               95                               100

gca atc aaa gtg gag cct gca tct cca cct tat tat tct gag aag act      450
Ala Ile Lys Val Glu Pro Ala Ser Pro Pro Tyr Tyr Ser Glu Lys Thr
    105                               110                               115                               120

cag ctc tac aat aag cct cat gaa gag cct tcc aac tcc ctc atg gca      498
Gln Leu Tyr Asn Lys Pro His Glu Glu Pro Ser Asn Ser Leu Met Ala
                               125                               130                               135

att gaa tgt cgt gtc tgt gga gat aaa gct tct gga ttt cac tat gga      546
Ile Glu Cys Arg Val Cys Gly Asp Lys Ala Ser Gly Phe His Tyr Gly
                               140                               145                               150

gtt cat gct tgt gaa gga tgc aag ggt ttc ttc cgg aga aca atc aga      594
Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Thr Ile Arg
                               155                               160                               165

ttg aag ctt atc tat gac aga tgt gat ctt aac tgt cgg atc cac aaa      642
Leu Lys Leu Ile Tyr Asp Arg Cys Asp Leu Asn Cys Arg Ile His Lys
    170                               175                               180

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aaa agt aga aat aaa tgt cag tac tgt cgg ttt cag aaa tgc ctt gca	690
Lys Ser Arg Asn Lys Cys Gln Tyr Cys Arg Phe Gln Lys Cys Leu Ala	
185 190 195 200	
gtg ggg atg tct cat aat gcc atc agg ttt ggg cgg atg cca cag gcc	738
Val Gly Met Ser His Asn Ala Ile Arg Phe Gly Arg Met Pro Gln Ala	
205 210 215	
gag aag gag aag ctg ttg gcg gag atc tcc agt gat atc gac cag ctg	786
Glu Lys Glu Lys Leu Leu Ala Glu Ile Ser Ser Asp Ile Asp Gln Leu	
220 225 230	
aat cca gag tcc gct gac ctc cgg gcc ctg gca aaa cat ttg tat gac	834
Asn Pro Glu Ser Ala Asp Leu Arg Ala Leu Ala Lys His Leu Tyr Asp	
235 240 245	
tca tac ata aag tcc ttc ccg ctg acc aaa gca aag gcg agg gcg atc	882
Ser Tyr Ile Lys Ser Phe Pro Leu Thr Lys Ala Lys Ala Arg Ala Ile	
250 255 260	
ttg aca gga aag aca aca gac aaa tca cca ttc gtt atc tat gac atg	930
Leu Thr Gly Lys Thr Thr Asp Lys Ser Pro Phe Val Ile Tyr Asp Met	
265 270 275 280	
aat tcc tta atg atg gga gaa gat aaa atc aag ttc aaa cac atc acc	978
Asn Ser Leu Met Met Gly Glu Asp Lys Ile Lys Phe Lys His Ile Thr	
285 290 295	
ccc ctg cag gag cag agc aaa gag gtg gcc atc cgc atc ttt cag ggc	1026
Pro Leu Gln Glu Gln Ser Lys Glu Val Ala Ile Arg Ile Phe Gln Gly	
300 305 310	
tgc cag ttt cgc tcc gtg gag gct gtg cag gag atc aca gag tat gcc	1074
Cys Gln Phe Arg Ser Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala	
315 320 325	
aaa agc att cct ggt ttt gta aat ctt gac ttg aac gac caa gta act	1122
Lys Ser Ile Pro Gly Phe Val Asn Leu Asp Leu Asn Asp Gln Val Thr	
330 335 340	
ctc ctc aaa tat gga gtc cac gag atc att tac aca atg ctg gcc tcc	1170
Leu Leu Lys Tyr Gly Val His Glu Ile Ile Tyr Thr Met Leu Ala Ser	
345 350 355 360	
ttg atg aat aaa gat ggg gtt ctc ata tcc gag ggc caa ggc ttc atg	1218
Leu Met Asn Lys Asp Gly Val Leu Ile Ser Glu Gly Gln Gly Phe Met	
365 370 375	
aca agg gag ttt cta aag agc ctg cga aag cct ttt ggt gac ttt atg	1266
Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe Met	
380 385 390	
gag ccc aag ttt gag ttt gct gtg aag ttc aat gca ctg gaa tta gat	1314
Glu Pro Lys Phe Glu Phe Ala Val Lys Phe Asn Ala Leu Glu Leu Asp	
395 400 405	

gac agc gac ttg gca ata ttt att gct gtc att att ctc agt gga gac	1362
Asp Ser Asp Leu Ala Ile Phe Ile Ala Val Ile Ile Leu Ser Gly Asp	
410 415 420	
cgc cca ggt ttg ctg aat gtg aag ccc att gaa gac att caa gac aac	1410
Arg Pro Gly Leu Leu Asn Val Lys Pro Ile Glu Asp Ile Gln Asp Asn	
425 430 435 440	
ctg cta caa gcc ctg gag ctc cag ctg aag ctg aac cac cct gag tcc	1458
Leu Leu Gln Ala Leu Glu Leu Gln Leu Lys Leu Asn His Pro Glu Ser	
445 450 455	
tca cag ctg ttt gcc aag ctg ctc cag aaa atg aca gac ctc aga cag	1506
Ser Gln Leu Phe Ala Lys Leu Leu Gln Lys Met Thr Asp Leu Arg Gln	
460 465 470	
att gtc acg gaa cac gtg cag cta ctg cag gtg atc aag aag acg gag	1554
Ile Val Thr Glu His Val Gln Leu Leu Gln Val Ile Lys Lys Thr Glu	
475 480 485	
aca gac atg agt ctt cac ccg ctc ctg cag gag atc tac aag gac ttg	1602
Thr Asp Met Ser Leu His Pro Leu Leu Gln Glu Ile Tyr Lys Asp Leu	
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tac tag	1608
Tyr *	
505	

<210> 16
 <211> 505
 <212> PRT
 <213> Homo Sapiens

<400> 16

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35 40 45	
Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile Lys Pro	
50 55 60	
Phe Thr Thr Val Asp Phe Ser Ser Ile Ser Thr Pro His Tyr Glu Asp	
65 70 75 80	
Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr Asp	
85 90 95	
Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser	
100 105 110	
Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu	
115 120 125	
Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp	
130 135 140	
Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys	
145 150 155 160	
Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys	

				165					170					175					
Asp	Leu	Asn	Cys	Arg	Ile	His	Lys	Lys	Ser	Arg	Asn	Lys	Cys	Gln	Tyr				
			180						185				190						
Cys	Arg	Phe	Gln	Lys	Cys	Leu	Ala	Val	Gly	Met	Ser	His	Asn	Ala	Ile				
		195					200					205							
Arg	Phe	Gly	Arg	Met	Pro	Gln	Ala	Glu	Lys	Glu	Lys	Leu	Leu	Ala	Glu				
	210					215					220								
Ile	Ser	Ser	Asp	Ile	Asp	Gln	Leu	Asn	Pro	Glu	Ser	Ala	Asp	Leu	Arg				
225					230					235					240				
Ala	Leu	Ala	Lys	His	Leu	Tyr	Asp	Ser	Tyr	Ile	Lys	Ser	Phe	Pro	Leu				
			245						250					255					
Thr	Lys	Ala	Lys	Ala	Arg	Ala	Ile	Leu	Thr	Gly	Lys	Thr	Thr	Asp	Lys				
		260						265					270						
Ser	Pro	Phe	Val	Ile	Tyr	Asp	Met	Asn	Ser	Leu	Met	Met	Gly	Glu	Asp				
	275						280				285								
Lys	Ile	Lys	Phe	Lys	His	Ile	Thr	Pro	Leu	Gln	Glu	Gln	Ser	Lys	Glu				
	290					295				300									
Val	Ala	Ile	Arg	Ile	Phe	Gln	Gly	Cys	Gln	Phe	Arg	Ser	Val	Glu	Ala				
305					310					315					320				
Val	Gln	Glu	Ile	Thr	Glu	Tyr	Ala	Lys	Ser	Ile	Pro	Gly	Phe	Val	Asn				
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Leu	Asp	Leu	Asn	Asp	Gln	Val	Thr	Leu	Leu	Lys	Tyr	Gly	Val	His	Glu				
		340						345					350						
Ile	Ile	Tyr	Thr	Met	Leu	Ala	Ser	Leu	Met	Asn	Lys	Asp	Gly	Val	Leu				
	355						360					365							
Ile	Ser	Glu	Gly	Gln	Gly	Phe	Met	Thr	Arg	Glu	Phe	Leu	Lys	Ser	Leu				
	370					375					380								
Arg	Lys	Pro	Phe	Gly	Asp	Phe	Met	Glu	Pro	Lys	Phe	Glu	Phe	Ala	Val				
385					390					395				400					
Lys	Phe	Asn	Ala	Leu	Glu	Leu	Asp	Asp	Ser	Asp	Leu	Ala	Ile	Phe	Ile				
			405						410					415					
Ala	Val	Ile	Ile	Leu	Ser	Gly	Asp	Arg	Pro	Gly	Leu	Leu	Asn	Val	Lys				
		420						425					430						
Pro	Ile	Glu	Asp	Ile	Gln	Asp	Asn	Leu	Leu	Gln	Ala	Leu	Glu	Leu	Gln				
	435						440					445							
Leu	Lys	Leu	Asn	His	Pro	Glu	Ser	Ser	Gln	Leu	Phe	Ala	Lys	Leu	Leu				
	450					455					460								
Gln	Lys	Met	Thr	Asp	Leu	Arg	Gln	Ile	Val	Thr	Glu	His	Val	Gln	Leu				
465					470					475				480					
Leu	Gln	Val	Ile	Lys	Lys	Thr	Glu	Thr	Asp	Met	Ser	Leu	His	Pro	Leu				
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		500						505											

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gctcaacagc accctgga 18

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<400> 19
gcaacctctc gactcaccag 20

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cattacggag agatccacgg 20

<210> 22
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agccccgagc cctcggcggg ctgcgagcga ctccccggcg atg cct cac aac tcc 175
Met Pro His Asn Ser
1 5

atc aga tct ggc cat gga ggg ctg aac cag ctg gga ggg gcc ttt gtg 223
Ile Arg Ser Gly His Gly Gly Leu Asn Gln Leu Gly Gly Ala Phe Val
10 15 20

aat ggc aga cct ctg ccg gaa gtg gtc cgc cag cgc atc gta gac ctg 271
Asn Gly Arg Pro Leu Pro Glu Val Val Arg Gln Arg Ile Val Asp Leu
25 30 35

gcc cac cag ggt gta agg ccc tgc gac atc tct cgc cag ctg cgc gtc 319
Ala His Gln Gly Val Arg Pro Cys Asp Ile Ser Arg Gln Leu Arg Val
40 45 50

agc cat ggc tgc gtc agc aag atc ctt ggc agg tac tac gag act ggc	367
Ser His Gly Cys Val Ser Lys Ile Leu Gly Arg Tyr Tyr Glu Thr Gly	
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Ser Ile Arg Pro Gly Val Ile Gly Gly Ser Lys Pro Lys Val Ala Thr	
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ccc aag gtg gtg gag aag att ggg gac tac aaa cgc cag aac cct acc	463
Pro Lys Val Val Glu Lys Ile Gly Asp Tyr Lys Arg Gln Asn Pro Thr	
90 95 100	
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Met Phe Ala Trp Glu Ile Arg Asp Arg Leu Leu Ala Glu Gly Val Cys	
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Asp Asn Asp Thr Val Pro Ser Val Ser Ser Ile Asn Arg Ile Ile Arg	
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acc aaa gtg cag caa cca ttc aac ctc cct atg gac agc tgc gtg gcc	607
Thr Lys Val Gln Gln Pro Phe Asn Leu Pro Met Asp Ser Cys Val Ala	
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Thr Lys Ser Leu Ser Pro Gly His Thr Leu Ile Pro Ser Ser Ala Val	
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Ile Asn Gly Leu Leu Gly Ile Ala Gln Pro Gly Ser Asp Lys Arg Lys	
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Met Asp Asp Ser Asp Gln Asp Ser Cys Arg Leu Ser Ile Asp Ser Gln	
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Gln His His Leu Glu Pro Leu Glu Cys Pro Phe Glu Arg Gln His Tyr	
230 235 240 245	
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Tyr Pro Leu Pro Leu Leu Asn Ser Thr Leu Asp Asp Gly Lys Ala Thr	
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ctg acc cct tcc aac acg cca	ctg ggg cgc aac ctc	tcg act cac cag	1039
Leu Thr Pro Ser Asn Thr Pro	Leu Gly Arg Asn Leu	Ser Thr His Gln	
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acc tac ccc gtg gtg gca ggg cga gag atg gtg ggg ccc acg ctg ccc			1087
Thr Tyr Pro Val Val Ala Gly Arg Glu Met Val Gly Pro Thr Leu Pro			
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Gly Tyr Pro Pro His Ile Pro Thr Ser Gly Gln Gly Ser Tyr Ala Ser			
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Ser Ala Ile Ala Gly Met Val Ala Glu Met Thr Met Val Asp Thr Glu			
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Met Pro Phe Trp Pro Thr Asn Phe Gly Ile Ser Ser Val Asp Leu Ser			
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Val Met Glu Asp His Ser His Ser Phe Asp Ile Lys Pro Phe Thr Thr			
	360	365	370
gtt gac ttc tcc agc att tct act cca cat tac gaa gac att cca ttc			1327
Val Asp Phe Ser Ser Ile Ser Thr Pro His Tyr Glu Asp Ile Pro Phe			
	375	380	385
aca aga aca gat cca gtg gtt gca gat tac aag tat gac ctg aaa ctt			1375
Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr Asp Leu Lys Leu			
390	395	400	405
caa gag tac caa agt gca atc aaa gtg gag cct gca tct cca cct tat			1423
Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser Pro Tyr			
	410	415	420
tat tct gag aag act cag ctc tac aat aag cct cat gaa gag cct tcc			1471
Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu Glu Pro Ser			
	425	430	435
aac tcc ctc atg gca att gaa tgt cgt gtc tgt gga gat aaa gct tct			1519
Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp Lys Ala Ser			
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Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe			
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cgg aga aca atc aga ttg aag ctt atc tat gac aga tgt gat ctt aac			1615
Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys Asp Leu Asn			
470	475	480	485
tgt cgg atc cac aaa aaa agt aga aat aaa tgt cag tac tgt cgg ttt			1663
Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr Cys Arg Phe			
	490	495	500

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Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile Arg Phe Gly	
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cgg atg cca cag gcc gag aag gag aag ctg ttg gcg gag atc tcc agt	1759
Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu Ile Ser Ser	
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Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg Ala Leu Ala	
535 540 545	
aaa cat ttg tat gac tca tac ata aag tcc ttc ccg ctg acc aaa gca	1855
Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu Thr Lys Ala	
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Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser Pro Phe	
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gtt atc tat gac atg aat tcc tta atg atg gga gaa gat aaa atc aag	1951
Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys Ile Lys	
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Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys Glu Val Ala Ile	
600 605 610	
cgc atc ttt cag ggc tgc cag ttt cgc tcc gtg gag gct gtg cag gag	2047
Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu Ala Val Gln Glu	
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atc aca gag tat gcc aaa agc att cct ggt ttt gta aat ctt gac ttg	2095
Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu Asp Leu	
630 635 640 645	
aac gac caa gta act ctc ctc aaa tat gga gtc cac gag atc att tac	2143
Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu Ile Ile Tyr	
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aca atg ctg gcc tcc ttg atg aat aaa gat ggg gtt ctc ata tcc gag	2191
Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly Val Leu Ile Ser Glu	
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ggc caa ggc ttc atg aca agg gag ttt cta aag agc ctg cga aag cct	2239
Gly Gln Gly Phe Met Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro	
680 685 690	
ttt ggt gac ttt atg gag ccc aag ttt gag ttt gct gtg aag ttc aat	2287
Phe Gly Asp Phe Met Glu Pro Lys Phe Glu Phe Ala Val Lys Phe Asn	
695 700 705	
gca ctg gaa tta gat gac agc gac ttg gca ata ttt att gct gtc att	2335
Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Ile Phe Ile Ala Val Ile	
710 715 720 725	

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 Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu Asn Val Lys Pro Ile Glu
 730 735 740

gac att caa gac aac ctg cta caa gcc ctg gag ctc cag ctg aag ctg 2431
 Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu Glu Leu Gln Leu Lys Leu
 745 750 755

aac cac cct gag tcc tca cag ctg ttt gcc aag ctg ctc cag aaa atg 2479
 Asn His Pro Glu Ser Ser Gln Leu Phe Ala Lys Leu Leu Gln Lys Met
 760 765 770

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 Thr Asp Leu Arg Gln Ile Val Thr Glu His Val Gln Leu Leu Gln Val
 775 780 785

atc aag aag acg gag aca gac atg agt ctt cac ccg ctc ctg cag gag 2575
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 35 40 45
 Arg Gln Leu Arg Val Ser His Gly Cys Val Ser Lys Ile Leu Gly Arg
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 Tyr Tyr Glu Thr Gly Ser Ile Arg Pro Gly Val Ile Gly Gly Ser Lys
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 Pro Lys Val Ala Thr Pro Lys Val Val Glu Lys Ile Gly Asp Tyr Lys
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 Arg Gln Asn Pro Thr Met Phe Ala Trp Glu Ile Arg Asp Arg Leu Leu
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 Ala Glu Gly Val Cys Asp Asn Asp Thr Val Pro Ser Val Ser Ser Ile
 115 120 125
 Asn Arg Ile Ile Arg Thr Lys Val Gln Gln Pro Phe Asn Leu Pro Met
 130 135 140
 Asp Ser Cys Val Ala Thr Lys Ser Leu Ser Pro Gly His Thr Leu Ile
 145 150 155 160
 Pro Ser Ser Ala Val Thr Pro Pro Glu Ser Pro Gln Ser Asp Ser Leu
 165 170 175
 Gly Ser Thr Tyr Ser Ile Asn Gly Leu Leu Gly Ile Ala Gln Pro Gly
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 Ser Asp Lys Arg Lys Met Asp Asp Ser Asp Gln Asp Ser Cys Arg Leu
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Glu	Arg	Gln	His	Tyr	Pro	Glu	Ala	Tyr	Ala	Ser	Pro	Ser	His	Thr	Lys
				245					250						255
Gly	Glu	Gln	Gly	Leu	Tyr	Pro	Leu	Pro	Leu	Leu	Asn	Ser	Thr	Leu	Asp
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Asp	Gly	Lys	Ala	Thr	Leu	Thr	Pro	Ser	Asn	Thr	Pro	Leu	Gly	Arg	Asn
		275					280					285			
Leu	Ser	Thr	His	Gln	Thr	Tyr	Pro	Val	Val	Ala	Gly	Arg	Glu	Met	Val
	290					295					300				
Gly	Pro	Thr	Leu	Pro	Gly	Tyr	Pro	Pro	His	Ile	Pro	Thr	Ser	Gly	Gln
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Gly	Ser	Tyr	Ala	Ser	Ser	Ala	Ile	Ala	Gly	Met	Val	Ala	Glu	Met	Thr
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Met	Val	Asp	Thr	Glu	Met	Pro	Phe	Trp	Pro	Thr	Asn	Phe	Gly	Ile	Ser
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Ser	Val	Asp	Leu	Ser	Val	Met	Glu	Asp	His	Ser	His	Ser	Phe	Asp	Ile
		355					360						365		
Lys	Pro	Phe	Thr	Thr	Val	Asp	Phe	Ser	Ser	Ile	Ser	Thr	Pro	His	Tyr
	370					375					380				
Glu	Asp	Ile	Pro	Phe	Thr	Arg	Thr	Asp	Pro	Val	Val	Ala	Asp	Tyr	Lys
385					390					395					400
Tyr	Asp	Leu	Lys	Leu	Gln	Glu	Tyr	Gln	Ser	Ala	Ile	Lys	Val	Glu	Pro
				405				410						415	
Ala	Ser	Pro	Pro	Tyr	Tyr	Ser	Glu	Lys	Thr	Gln	Leu	Tyr	Asn	Lys	Pro
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His	Glu	Glu	Pro	Ser	Asn	Ser	Leu	Met	Ala	Ile	Glu	Cys	Arg	Val	Cys
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	450					455					460				
Cys	Lys	Gly	Phe	Phe	Arg	Arg	Thr	Ile	Arg	Leu	Lys	Leu	Ile	Tyr	Asp
465					470					475					480
Arg	Cys	Asp	Leu	Asn	Cys	Arg	Ile	His	Lys	Lys	Ser	Arg	Asn	Lys	Cys
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Gln	Tyr	Cys	Arg	Phe	Gln	Lys	Cys	Leu	Ala	Val	Gly	Met	Ser	His	Asn
			500					505					510		
Ala	Ile	Arg	Phe	Gly	Arg	Met	Pro	Gln	Ala	Glu	Lys	Glu	Lys	Leu	Leu
		515					520					525			
Ala	Glu	Ile	Ser	Ser	Asp	Ile	Asp	Gln	Leu	Asn	Pro	Glu	Ser	Ala	Asp
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Leu	Arg	Ala	Leu	Ala	Lys	His	Leu	Tyr	Asp	Ser	Tyr	Ile	Lys	Ser	Phe
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Pro	Leu	Thr	Lys	Ala	Lys	Ala	Arg	Ala	Ile	Leu	Thr	Gly	Lys	Thr	Thr
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Asp	Lys	Ser	Pro	Phe	Val	Ile	Tyr	Asp	Met	Asn	Ser	Leu	Met	Met	Gly
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Glu	Asp	Lys	Ile	Lys	Phe	Lys	His	Ile	Thr	Pro	Leu	Gln	Glu	Gln	Ser
		595					600					605			
Lys	Glu	Val	Ala	Ile	Arg	Ile	Phe	Gln	Gly	Cys	Gln	Phe	Arg	Ser	Val
	610						615				620				
Glu	Ala	Val	Gln	Glu	Ile	Thr	Glu	Tyr	Ala	Lys	Ser	Ile	Pro	Gly	Phe
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Val	Asn	Leu	Asp	Leu	Asn	Asp	Gln	Val	Thr	Leu	Leu	Lys	Tyr	Gly	Val
				645					650					655	

His	Glu	Ile	Ile	Tyr	Thr	Met	Leu	Ala	Ser	Leu	Met	Asn	Lys	Asp	Gly
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Val	Leu	Ile	Ser	Glu	Gly	Gln	Gly	Phe	Met	Thr	Arg	Glu	Phe	Leu	Lys
		675					680					685			
Ser	Leu	Arg	Lys	Pro	Phe	Gly	Asp	Phe	Met	Glu	Pro	Lys	Phe	Glu	Phe
		690				695					700				
Ala	Val	Lys	Phe	Asn	Ala	Leu	Glu	Leu	Asp	Asp	Ser	Asp	Leu	Ala	Ile
705					710					715					720
Phe	Ile	Ala	Val	Ile	Ile	Leu	Ser	Gly	Asp	Arg	Pro	Gly	Leu	Leu	Asn
			725						730						735
Val	Lys	Pro	Ile	Glu	Asp	Ile	Gln	Asp	Asn	Leu	Leu	Gln	Ala	Leu	Glu
			740					745					750		
Leu	Gln	Leu	Lys	Leu	Asn	His	Pro	Glu	Ser	Ser	Gln	Leu	Phe	Ala	Lys
		755					760					765			
Leu	Leu	Gln	Lys	Met	Thr	Asp	Leu	Arg	Gln	Ile	Val	Thr	Glu	His	Val
		770				775						780			
Gln	Leu	Leu	Gln	Val	Ile	Lys	Lys	Thr	Glu	Thr	Asp	Met	Ser	Leu	His
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				Met Pro His Asn Ser										
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Ile Arg Ser	Gly His Gly	Gly Leu Asn	Gln Leu Gly	Gly Ala Phe	Val									
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aat ggc aga	cct ctg ccg	gaa gtg gtc	cgc cag cgc	atc gta gac	ctg		271							
Asn Gly Arg	Pro Leu Pro	Glu Val Val	Arg Gln Arg	Ile Val Asp	Leu									
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gcc cac cag	ggt gta agg	ccc tgc gac	atc tct cgc	cag ctc cgc	gtc		319							
Ala His Gln	Gly Val Arg	Pro Cys Asp	Ile Ser Arg	Gln Leu Arg	Val									
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agc cat ggc	tgc gtc agc	aag atc ctt	ggc agg tac	tac gag act	ggc		367							
Ser His Gly	Cys Val Ser	Lys Ile Leu	Gly Arg Tyr	Tyr Glu Thr	Gly									
	55		60		65									
agc atc cgg	cct gga gtg	ata ggg ggc	tcc aag ccc	aag gtg gcc	acc		415							
Ser Ile Arg	Pro Gly Val	Ile Gly Gly	Ser Lys Pro	Lys Val Ala	Thr									
	70		75		80		85							

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Pro Lys Val Val Glu Lys Ile Gly Asp Tyr Lys Arg Gln Asn Pro Thr	
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Met Phe Ala Trp Glu Ile Arg Asp Arg Leu Leu Ala Glu Gly Val Cys	
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Asp Asn Asp Thr Val Pro Ser Val Ser Ser Ile Asn Arg Ile Ile Arg	
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acc aaa gtg cag caa cca ttc aac ctc cct atg gac agc tgc gtg gcc	607
Thr Lys Val Gln Gln Pro Phe Asn Leu Pro Met Asp Ser Cys Val Ala	
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Thr Lys Ser Leu Ser Pro Gly His Thr Leu Ile Pro Ser Ser Ala Val	
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Thr Pro Pro Glu Ser Pro Gln Ser Asp Ser Leu Gly Ser Thr Tyr Ser	
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Ile Asn Gly Leu Leu Gly Ile Ala Gln Pro Gly Ser Asp Lys Arg Lys	
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Met Asp Asp Ser Asp Gln Asp Ser Cys Arg Leu Ser Ile Asp Ser Gln	
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Ser Ser Ser Ser Gly Pro Arg Lys His Leu Arg Thr Asp Ala Phe Ser	
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cag cac cac ctc gag ccg ctc gag tgc cca ttt gag cgg cag cac tac	895
Gln His His Leu Glu Pro Leu Glu Cys Pro Phe Glu Arg Gln His Tyr	
230 235 240 245	
cca gag gcc tat gcc tcc ccc agc cac acc aaa ggc gag cag ggc ctc	943
Pro Glu Ala Tyr Ala Ser Pro Ser His Thr Lys Gly Glu Gln Gly Leu	
250 255 260	
tac ccg ctg ccc ttg ctc aac agc acc ctg gac gac ggg aag gcc acc	991
Tyr Pro Leu Pro Leu Leu Asn Ser Thr Leu Asp Asp Gly Lys Ala Thr	
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Phe Asn Ala Phe Pro His Ala Ala Ser Val Tyr Gly Gln Phe Thr Gly	
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Gln Ala Leu Leu Ser Gly Arg Glu Met Val Gly Pro Thr Leu Pro Gly	
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Gly His Thr Pro Tyr Ser Ser Tyr Ser Glu Ala Trp Gly Phe Pro Asn	
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Ser Ser Leu Leu Ser Ser Pro Tyr Tyr Tyr Ser Ser Thr Ser Arg Pro	
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gccagcccca gggagcttaa aacagacatt ccacagggcc tgggcccctg ggaggtgagg	2300
tgtggtgtgc ggccttcaacc agggcagaac aaggcagaat cgcaggaaac ccgcttcccc	2360
ttcctgacag ctcttgccaa gccaaatgtg cttcctgcag ctacgcccc ccagctactg	2420
aagggaacca aggcaccccc tgaagccagc gatagagggt ccctctctgc tccccagcag	2480
ctcctgcccc caaggcctga ctgtatatac tgtaaataaa actttgtttg ggtcaagctt	2540
ccttctttct aacccccaga ctttggcctc tgagtgaat gtctctcttt gccctgtggg	2600
gcttctctcc ttgatgcttc tttctttttt taaagacaac ctgccattac cacatgactc	2660

aataaaccat tgctcttcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a

2711

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<211> 450
<212> PRT
<213> Homo Sapiens

<400> 25

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Gly	Gly	Ala	Phe	Val	Asn	Gly	Arg	Pro	Leu	Pro	Glu	Val	Val	Arg	Gln
		20						25					30		
Arg	Ile	Val	Asp	Leu	Ala	His	Gln	Gly	Val	Arg	Pro	Cys	Asp	Ile	Ser
	35						40					45			
Arg	Gln	Leu	Arg	Val	Ser	His	Gly	Cys	Val	Ser	Lys	Ile	Leu	Gly	Arg
	50					55					60				
Tyr	Tyr	Glu	Thr	Gly	Ser	Ile	Arg	Pro	Gly	Val	Ile	Gly	Gly	Ser	Lys
65					70					75				80	
Pro	Lys	Val	Ala	Thr	Pro	Lys	Val	Val	Glu	Lys	Ile	Gly	Asp	Tyr	Lys
				85					90					95	
Arg	Gln	Asn	Pro	Thr	Met	Phe	Ala	Trp	Glu	Ile	Arg	Asp	Arg	Leu	Leu
		100						105					110		
Ala	Glu	Gly	Val	Cys	Asp	Asn	Asp	Thr	Val	Pro	Ser	Val	Ser	Ser	Ile
		115					120					125			
Asn	Arg	Ile	Ile	Arg	Thr	Lys	Val	Gln	Gln	Pro	Phe	Asn	Leu	Pro	Met
	130					135					140				
Asp	Ser	Cys	Val	Ala	Thr	Lys	Ser	Leu	Ser	Pro	Gly	His	Thr	Leu	Ile
145					150					155				160	
Pro	Ser	Ser	Ala	Val	Thr	Pro	Pro	Glu	Ser	Pro	Gln	Ser	Asp	Ser	Leu
			165						170					175	
Gly	Ser	Thr	Tyr	Ser	Ile	Asn	Gly	Leu	Leu	Gly	Ile	Ala	Gln	Pro	Gly
		180					185						190		
Ser	Asp	Lys	Arg	Lys	Met	Asp	Asp	Ser	Asp	Gln	Asp	Ser	Cys	Arg	Leu
	195					200					205				
Ser	Ile	Asp	Ser	Gln	Ser	Ser	Ser	Ser	Gly	Pro	Arg	Lys	His	Leu	Arg
	210					215					220				
Thr	Asp	Ala	Phe	Ser	Gln	His	His	Leu	Glu	Pro	Leu	Glu	Cys	Pro	Phe
225					230					235				240	
Glu	Arg	Gln	His	Tyr	Pro	Glu	Ala	Tyr	Ala	Ser	Pro	Ser	His	Thr	Lys
			245					250					255		
Gly	Glu	Gln	Gly	Leu	Tyr	Pro	Leu	Pro	Leu	Leu	Asn	Ser	Thr	Leu	Asp
		260					265					270			
Asp	Gly	Lys	Ala	Thr	Leu	Thr	Pro	Ser	Asn	Thr	Pro	Leu	Gly	Arg	Asn
	275					280					285				
Leu	Ser	Thr	His	Gln	Thr	Tyr	Pro	Val	Val	Ala	Asp	Pro	His	Ser	Pro
	290					295					300				
Leu	Ala	Ile	Lys	Gln	Glu	Thr	Pro	Glu	Val	Ser	Ser	Ser	Ser	Ser	Thr
305				310					315					320	
Pro	Cys	Ser	Leu	Ser	Ser	Ser	Ala	Leu	Leu	Asp	Leu	Gln	Gln	Val	Gly
			325					330				335			
Ser	Gly	Val	Pro	Pro	Phe	Asn	Ala	Phe	Pro	His	Ala	Ala	Ser	Val	Tyr
		340					345					350			
Gly	Gln	Phe	Thr	Gly	Gln	Ala	Leu	Leu	Ser	Gly	Arg	Glu	Met	Val	Gly
		355				360					365				
Pro	Thr	Leu	Pro	Gly	Tyr	Pro	Pro	His	Ile	Pro	Thr	Ser	Gly	Gln	Gly
	370					375					380				

Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Gly Ser Glu Tyr
 385 390 395 400
 Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr Ser Glu Ala
 405 410 415
 Trp Gly Phe Pro Asn Ser Ser Leu Leu Ser Ser Pro Tyr Tyr Tyr Ser
 420 425 430
 Ser Thr Ser Arg Pro Ser Ala Pro Pro Thr Thr Ala Thr Ala Phe Asp
 435 440 445
 His Leu
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<210> 26
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 gggtcggcctc gaggacaccg gagaggggag ccacgccgcc gtggccgcag aa atg acc 178
 Met Thr
 1

atg gtt gac aca gag atc gca ttc tgg ccc acc aac ttt ggg atc agc 226
 Met Val Asp Thr Glu Ile Ala Phe Trp Pro Thr Asn Phe Gly Ile Ser
 5 10 15

tcc gtg gat ctc tcc gta atg gaa gac cac tcc cac tcc ttt gat atc 274
 Ser Val Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile
 20 25 30

aag ccc ttc act act gtt gac ttc tcc agc att tct act cca cat tac 322
 Lys Pro Phe Thr Thr Val Asp Phe Ser Ser Ile Ser Thr Pro His Tyr
 35 40 45 50

gaa gac att cca ttc aca aga aca gat cca gtg gtt gca gat tac aag 370
 Glu Asp Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys
 55 60 65

tat gac ctg aaa ctt caa gag tac caa agt gca atc aaa gtg gag cct 418
 Tyr Asp Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro
 70 75 80

gca tct cca cct tat tat tct gag aag act cag ctc tac aat aag cct 466
 Ala Ser Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro
 85 90 95

cat gaa gag cct tcc aac tcc ctc atg gca att gaa tgt cgt gtc tgt 514
 His Glu Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys
 100 105 110

gga gat aaa gct tct gga ttt cac tat gga gtt cat gct tgt gaa gga 562

Gly 115	Asp	Lys	Ala	Ser	Gly 120	Phe	His	Tyr	Gly 125	Val	His	Ala	Cys	Glu	Gly 130	
tgc	aag	ggt	ttc	ttc	cgg	aga	aca	atc	aga	ttg	aag	ctt	atc	tat	gac	610
Cys	Lys	Gly	Phe	Phe	Arg	Arg	Thr	Ile	Arg	Leu	Lys	Leu	Ile	Tyr	Asp	
				135					140					145		
aga	tgt	gat	ctt	aac	tgt	cgg	atc	cac	aaa	aaa	agt	aga	aat	aaa	tgt	658
Arg	Cys	Asp	Leu	Asn	Cys	Arg	Ile	His	Lys	Lys	Ser	Arg	Asn	Lys	Cys	
			150				155						160			
cag	tac	tgt	cgg	ttt	cag	aaa	tgc	ctt	gca	gtg	ggg	atg	tct	cat	aat	706
Gln	Tyr	Cys	Arg	Phe	Gln	Lys	Cys	Leu	Ala	Val	Gly	Met	Ser	His	Asn	
		165					170					175				
gcc	atc	agg	ttt	ggg	cgg	atc	gca	cag	gcc	gag	aag	gag	aag	ctg	ttg	754
Ala	Ile	Arg	Phe	Gly	Arg	Ile	Ala	Gln	Ala	Glu	Lys	Glu	Lys	Leu	Leu	
	180					185					190					
gcg	gag	atc	tcc	agt	gat	atc	gac	cag	ctg	aat	cca	gag	tcc	gct	gac	802
Ala	Glu	Ile	Ser	Ser	Asp	Ile	Asp	Gln	Leu	Asn	Pro	Glu	Ser	Ala	Asp	
195					200					205					210	
ctc	cgt	cag	gcc	ctg	gca	aaa	cat	ttg	tat	gac	tca	tac	ata	aag	tcc	850
Leu	Arg	Gln	Ala	Leu	Ala	Lys	His	Leu	Tyr	Asp	Ser	Tyr	Ile	Lys	Ser	
				215					220					225		
ttc	ccg	ctg	acc	aaa	gca	aag	gcg	agg	gcg	atc	ttg	aca	gga	aag	aca	898
Phe	Pro	Leu	Thr	Lys	Ala	Lys	Ala	Arg	Ala	Ile	Leu	Thr	Gly	Lys	Thr	
			230					235					240			
aca	gac	aaa	tca	cca	ttc	gtt	atc	tat	gac	atg	aat	tcc	tta	atg	atg	946
Thr	Asp	Lys	Ser	Pro	Phe	Val	Ile	Tyr	Asp	Met	Asn	Ser	Leu	Met	Met	
		245					250					255				
gga	gaa	gat	aaa	atc	aag	ttc	aaa	cac	atc	acc	ccc	ctg	cag	gag	cag	994
Gly	Glu	Asp	Lys	Ile	Lys	Phe	Lys	His	Ile	Thr	Pro	Leu	Gln	Glu	Gln	
	260					265					270					
agc	aaa	gag	gtg	gcc	atc	cgc	atc	ttt	cag	ggc	tgc	cag	ttt	cgc	tcc	1042
Ser	Lys	Glu	Val	Ala	Ile	Arg	Ile	Phe	Gln	Gly	Cys	Gln	Phe	Arg	Ser	
275					280					285					290	
gtg	gag	gct	gtg	cag	gag	atc	aca	gag	tat	gcc	aaa	agc	att	cct	ggt	1090
Val	Glu	Ala	Val	Gln	Glu	Ile	Thr	Glu	Tyr	Ala	Lys	Ser	Ile	Pro	Gly	
				295					300					305		
ttt	gta	aat	ctt	gac	ttg	aac	gac	caa	gta	act	ctc	ctc	aaa	tat	gga	1138
Phe	Val	Asn	Leu	Asp	Leu	Asn	Asp	Gln	Val	Thr	Leu	Leu	Lys	Tyr	Gly	
			310					315					320			
gtc	cac	gag	atc	att	tac	aca	atg	ctg	gcc	tcc	ttg	atg	aat	aaa	gat	1186
Val	His	Glu	Ile	Ile	Tyr	Thr	Met	Leu	Ala	Ser	Leu	Met	Asn	Lys	Asp	
		325					330					335				
ggg	gtt	ctc	ata	tcc	gag	ggc	caa	ggc	ttc	atg	aca	agg	gag	ttt	cta	1234

Gly Val Leu Ile Ser Glu Gly Gln Gly Phe Met Thr Arg Glu Phe Leu	
340 345 350	
aag agc ctg cga aag cct ttt ggt gac ttt atg gag ccc aag ttt gag	1282
Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe Met Glu Pro Lys Phe Glu	
355 360 365 370	
ttt gct gtg aag ttc aat gca ctg gaa tta gat gac agc gac ttg gca	1330
Phe Ala Val Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala	
375 380 385	
ata ttt att gct gtc att att ctc agt gga gac cgc cca ggt ttg ctg	1378
Ile Phe Ile Ala Val Ile Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu	
390 395 400	
aat gtg aag ccc att gaa gac att caa gac aac ctg cta caa gcc ctg	1426
Asn Val Lys Pro Ile Glu Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu	
405 410 415	
gag ctc cag ctg aag ctg aac cac cct gag tcc tca cag ctg ttt gcc	1474
Glu Leu Gln Leu Lys Leu Asn His Pro Glu Ser Ser Gln Leu Phe Ala	
420 425 430	
aag ctg ctc cag aaa atg aca gac ctc aga cag att gtc acg gaa cac	1522
Lys Leu Leu Gln Lys Met Thr Asp Leu Arg Gln Ile Val Thr Glu His	
435 440 445 450	
gtg cag cta ctg cag gtg atc aag aag acg gag aca gac atg agt ctt	1570
Val Gln Leu Leu Gln Val Ile Lys Lys Thr Glu Thr Asp Met Ser Leu	
455 460 465	
cac ccg ctc ctg cag gag atc tac aag gac ttg tac tag cagagagtcc	1619
His Pro Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr *	
470 475	
tgagccactg ccaacatttc ccttcttcca gttgcactat tctgagggaa aatctgacca	1679
taagaaaattt actgtgaaaa agcgttttaa aaagaaaagg gtttagaata tgatctattt	1739
tatgcatatt gtttataaag acacatttac aattttacttt taatattaaa aattaccata	1799
ttatgaaatt gc	1811

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 <211> 478
 <212> PRT
 <213> Homo Sapiens

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20 25 30	
Asp Ile Lys Pro Phe Thr Thr Val Asp Phe Ser Ser Ile Ser Thr Pro	
35 40 45	
His Tyr Glu Asp Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp	
50 55 60	
Tyr Lys Tyr Asp Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val	
65 70 75 80	

Glu	Pro	Ala	Ser	Pro	Pro	Tyr	Tyr	Ser	Glu	Lys	Thr	Gln	Leu	Tyr	Asn	85	90	95
Lys	Pro	His	Glu	Glu	Pro	Ser	Asn	Ser	Leu	Met	Ala	Ile	Glu	Cys	Arg	100	105	110
Val	Cys	Gly	Asp	Lys	Ala	Ser	Gly	Phe	His	Tyr	Gly	Val	His	Ala	Cys	115	120	125
Glu	Gly	Cys	Lys	Gly	Phe	Phe	Arg	Arg	Thr	Ile	Arg	Leu	Lys	Leu	Ile	130	135	140
Tyr	Asp	Arg	Cys	Asp	Leu	Asn	Cys	Arg	Ile	His	Lys	Lys	Ser	Arg	Asn	145	150	155
Lys	Cys	Gln	Tyr	Cys	Arg	Phe	Gln	Lys	Cys	Leu	Ala	Val	Gly	Met	Ser	165	170	175
His	Asn	Ala	Ile	Arg	Phe	Gly	Arg	Ile	Ala	Gln	Ala	Glu	Lys	Glu	Lys	180	185	190
Leu	Leu	Ala	Glu	Ile	Ser	Ser	Asp	Ile	Asp	Gln	Leu	Asn	Pro	Glu	Ser	195	200	205
Ala	Asp	Leu	Arg	Gln	Ala	Leu	Ala	Lys	His	Leu	Tyr	Asp	Ser	Tyr	Ile	210	215	220
Lys	Ser	Phe	Pro	Leu	Thr	Lys	Ala	Lys	Ala	Arg	Ala	Ile	Leu	Thr	Gly	225	230	235
Lys	Thr	Thr	Asp	Lys	Ser	Pro	Phe	Val	Ile	Tyr	Asp	Met	Asn	Ser	Leu	245	250	255
Met	Met	Gly	Glu	Asp	Lys	Ile	Lys	Phe	Lys	His	Ile	Thr	Pro	Leu	Gln	260	265	270
Glu	Gln	Ser	Lys	Glu	Val	Ala	Ile	Arg	Ile	Phe	Gln	Gly	Cys	Gln	Phe	275	280	285
Arg	Ser	Val	Glu	Ala	Val	Gln	Glu	Ile	Thr	Glu	Tyr	Ala	Lys	Ser	Ile	290	295	300
Pro	Gly	Phe	Val	Asn	Leu	Asp	Leu	Asn	Asp	Gln	Val	Thr	Leu	Leu	Lys	305	310	315
Tyr	Gly	Val	His	Glu	Ile	Ile	Tyr	Thr	Met	Leu	Ala	Ser	Leu	Met	Asn	325	330	335
Lys	Asp	Gly	Val	Leu	Ile	Ser	Glu	Gly	Gln	Gly	Phe	Met	Thr	Arg	Glu	340	345	350
Phe	Leu	Lys	Ser	Leu	Arg	Lys	Pro	Phe	Gly	Asp	Phe	Met	Glu	Pro	Lys	355	360	365
Phe	Glu	Phe	Ala	Val	Lys	Phe	Asn	Ala	Leu	Glu	Leu	Asp	Asp	Ser	Asp	370	375	380
Leu	Ala	Ile	Phe	Ile	Ala	Val	Ile	Ile	Leu	Ser	Gly	Asp	Arg	Pro	Gly	385	390	395
Leu	Leu	Asn	Val	Lys	Pro	Ile	Glu	Asp	Ile	Gln	Asp	Asn	Leu	Leu	Gln	405	410	415
Ala	Leu	Glu	Leu	Gln	Leu	Lys	Leu	Asn	His	Pro	Glu	Ser	Ser	Gln	Leu	420	425	430
Phe	Ala	Lys	Leu	Leu	Gln	Lys	Met	Thr	Asp	Leu	Arg	Gln	Ile	Val	Thr	435	440	445
Glu	His	Val	Gln	Leu	Leu	Gln	Val	Ile	Lys	Lys	Thr	Glu	Thr	Asp	Met	450	455	460
Ser	Leu	His	Pro	Leu	Leu	Gln	Glu	Ile	Tyr	Lys	Asp	Leu	Tyr			465	470	475

<210> 28
 <211> 20
 <212> DNA
 <213> Homo Sapiens

<400> 28
gccaccaagt ccctgagtcc 20

<210> 29
<211> 19
<212> DNA
<213> Homo Sapiens

<400> 29
gacctacggg aggaagccc 19

<210> 30
<211> 18
<212> DNA
<213> Homo Sapiens

<400> 30
gcggacccaa gcagtgag 18

<210> 31
<211> 21
<212> DNA
<213> Homo Sapiens

<400> 31
tttcttatgg tcagattttc c 21

<210> 32
<211> 21
<212> DNA
<213> Homo Sapiens

<400> 32
accagaaag cgattccttc a 21

<210> 33
<211> 20
<212> DNA
<213> Homo Sapiens

<400> 33
atgggtgaaa ctctgggaga 20

<210> 34
<211> 20
<212> DNA
<213> Homo Sapiens

<400> 34
ttgctgcaga tccaaaaagg 20

<210> 35
<211> 20
<212> DNA
<213> Homo Sapiens

<400> 35
gaggaagggg tggagctaga

20

<210> 36
<211> 537
<212> DNA
<213> Homo Sapiens

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<221> Unknown
<222> (85)...(85)
<223> n = A or T or C or G or other

<400> 36
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ttc act gat aca ctg tct gca aac ata tca caa gaa nat cct cac tca 96
ccc ttc gcc ata aag cag gaa acc ccc gag gtg tcc agt tct agc tcc 144
acc cct tcc tct tta tct agc tcc gcc ttt ttg gat ctg cag caa gtc 192
ggc tcc ggg gtc ccg ccc ttc aat gcc ttt ccc cat gct gcc tcc gtg 240
tac ggg cag ttc acg ggc cag gcc ctc ctc tca ggg cga gag atg gtg 288
ggg ccc acg ctg ccc gga tac cca ccc cac atc ccc acc agc gga cag 336
ggc agc tat gcc tcc tct gcc atc gca ggc atg gtg gca gga agt gaa 384
tac tct ggc aat gcc tat ggc cac acc ccc tac tcc tcc tac agc gag 432
gcc tgg cgc ttc ccc aac tcc agc ttg ctg agt tcc cca tat tat tac 480
agt tcc aca tca agg ccg agt gca ccg ccc acc act gcc acg gcc ttt 528
gac cat ctg 537

<210> 37
<211> 348
<212> DNA
<213> Homo Sapiens

<220>
<221> Unknown
<222> (85)...(85)
<223> n = A or T or C or G or other

<400> 37
atgggtgaaa ctctgggaga ttctcctatt gaccagaaaa gcgattcctt cactgataca 60
ctgtctgcaa acatatcaca agaanggcga gagatgggtg ggcccacgct gcccgatac 120
ccacccaca tccccaccag cggacagggc agctatgcct cctctgccat cgcaggcatg 180
gtggcaggaa gtgaatactc tggcaatgcc tatggccaca cccctactc ctctacagc 240
gaggcctggc gcttccccaa ctccagcttg ctgagttccc catattatta cagttccaca 300
tcaaggccga gtgcaccgcc caccactgcc acggcctttg accatctg 348

<210> 38
<211> 246
<212> DNA
<213> Homo Sapiens

<220>
<221> Unknown
<222> (85)...(85)
<223> n = A or T or C or G or other

<400> 38

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ctgtctgcaa acatatcaca agaangaagt gaatactctg gcaatgccta tggccacacc      120
ccctactcct cctacagcga ggctgggcgc ttccccaact ccagcttgct gagttcccca      180
tattattaca gttccacatc aaggcgcgagt gcaccgcccc ccactgccac ggcctttgac      240
catctg                                         246

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<210> 39
<211> 178
<212> PRT
<213> Homo Sapiens

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<220>
<221> Unknown
<222> (29)...(29)
<223> Xaa = any amino acid

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<400> 39
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Phe Thr Asp Thr Leu Ser Ala Asn Ile Ser Gln Glu Xaa Pro His Ser
          20          25          30
Pro Phe Ala Ile Lys Gln Glu Thr Pro Glu Val Ser Ser Ser Ser Ser
          35          40          45
Thr Pro Ser Ser Leu Ser Ser Ser Ala Phe Leu Asp Leu Gln Gln Val
          50          55          60
Gly Ser Gly Val Pro Pro Phe Asn Ala Phe Pro His Ala Ala Ser Val
65          70          75          80
Tyr Gly Gln Phe Thr Gly Gln Ala Leu Leu Ser Gly Arg Glu Met Val
          85          90          95
Gly Pro Thr Leu Pro Gly Tyr Pro Pro His Ile Pro Thr Ser Gly Gln
          100          105          110
Gly Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Gly Ser Glu
          115          120          125
Tyr Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr Ser Glu
          130          135          140
Ala Trp Arg Phe Pro Asn Ser Ser Leu Leu Ser Ser Pro Tyr Tyr Tyr
          145          150          155          160
Ser Ser Thr Ser Arg Pro Ala Pro Pro Thr Thr Ala Thr Ala Phe Asp
          165          170          175
His Leu

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<210> 40
<211> 116
<212> PRT
<213> Homo Sapiens

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<220>
<221> Unknown
<222> (29)...(29)
<223> Xaa = any amino acid

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<400> 40
Met Gly Glu Thr Leu Gly Asp Ser Pro Ile Asp Pro Glu Ser Asp Ser
 1          5          10          15
Phe Thr Asp Thr Leu Ser Ala Asn Ile Ser Gln Glu Xaa Arg Glu Met

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	20		25		30
Val Gly Pro Thr Leu Pro Gly Tyr Pro Pro His Ile Pro Thr Ser Gly					
	35		40		45
Gln Gly Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Gly Ser					
	50		55		60
Glu Tyr Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr Ser					
65		70		75	80
Glu Ala Trp Arg Phe Pro Asn Ser Ser Leu Leu Ser Ser Pro Tyr Tyr					
	85		90		95
Tyr Ser Ser Thr Ser Arg Pro Ser Ala Pro Pro Thr Thr Ala Thr Ala					
	100		105		110
Phe Asp His Leu					
	115				

<210> 41
 <211> 82
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> Unknown
 <222> (29)...(29)
 <223> Xaa = any amino acid

	<400> 41
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Phe Thr Asp Thr Leu Ser Ala Asn Ile Ser Gln Glu Xaa Ser Glu Tyr	
	20 25 30
Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr Ser Glu Ala	
	35 40 45
Trp Arg Phe Pro Asn Ser Ser Leu Leu Ser Ser Pro Tyr Tyr Tyr Ser	
	50 55 60
Ser Thr Ser Arg Pro Ser Ala Pro Pro Thr Thr Ala Thr Ala Phe Asp	
65	70 75 80
His Leu	

<210> 42
 <211> 43
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> Unknown
 <222> (22)...(22)
 <223> n = A or T or C or G or other

<221> CDS
 <222> (1)...(43)

	<400> 42
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Ser Ala Asn Ile Ser Gln Glu Xaa Pro His Ser Pro Phe Ala	
1	5 10

<210> 43
 <211> 14
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> Unknown
 <222> (8)...(8)
 <223> Xaa = any amino acid

<400> 43
 Ser Ala Asn Ile Ser Gln Glu Xaa Pro His Ser Pro Phe Ala
 1 5 10

<210> 44
 <211> 43
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> Unknown
 <222> (22)...(22)
 <223> n = A or T or C or G or other

<221> CDS
 <222> (1)...(43)

<400> 44
 tct gca aac ata tca caa gaa ngg cga gag atg gtg ggg ccc a
 Ser Ala Asn Ile Ser Gln Glu Xaa Arg Glu Met Val Gly Pro
 1 5 10

43

<210> 45
 <211> 14
 <212> PRT
 <213> Homo Sapiens

<220>
 <221> Unknown
 <222> (8)...(8)
 <223> Xaa = any amino acid

<400> 45
 Ser Ala Asn Ile Ser Gln Glu Xaa Arg Glu Met Val Gly Pro
 1 5 10

<210> 46
 <211> 43
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> Unknown
 <222> (22)...(22)

<223> n = a or T or C or G or other

<221> CDS

<222> (1)...(43)

<400> 46

tct gca aac ata tca caa gaa nga agt gaa tac tct ggc aat g
Ser Ala Asn Ile Ser Gln Glu Xaa Ser Glu Tyr Ser Gly Asn
1 5 10

43

<210> 47

<211> 14

<212> PRT

<213> Homo Sapiens

<220>

<221> Unknown

<222> (8)...(8)

<223> Xaa = any amino acid

<400> 47

Ser Ala Asn Ile Ser Gln Glu Xaa Ser Glu Tyr Ser Gly Asn
1 5 10